

REMARKS

Reexamination of the captioned application is respectfully requested.

A. SUMMARY OF THIS AMENDMENT

By the current amendment, Applicant basically:

1. Editorially amends the Abstract, thereby mooting the first enumerated paragraph of the Office Action.
2. Clarify claims 1, 16, 17 and 35 by amendment.
3. Adds new claim 37.
4. Respectfully traverses all prior art rejections (see section B infra).

B. PATENTABILITY OF THE CLAIMS

Claims 1-36 stand rejected under 35 USC §102(b) as being anticipated by U.S. Patent 5,233,170 to Metlitsky et al (see enumerated paragraph 4 of the Office Action). The prior art rejections are respectfully traversed for at least the following reasons.

CLAIMS 1-15, 16, 17, and 35

Claims 1-15, 16, 17, 35 basically relate to an optical device for emitting a laser light beam, comprising a package for a laser light source, the package housing means for generating a laser right beam intended to illuminate an optical code to be read and further comprising a diaphragm for selecting a central portion of the generated laser light beam. As amended for purposes of clarification only and not for narrowing, claim 1 has been amended to state that the selection is so that only the central portion of the laser light beam is propagated while a remaining portion of the laser light beam is obstructed. This clarifying amendatory language for the meaning of "select" is amply supported by the original disclosure including, for example, page 3 (lines 22-26); page 5 (lines 1-10).

Metlitsky discloses an optical reader/scanning system including a laser diode package 10. The package 10 comprises a casing 12 housing a laser chip 22 for generating a laser beam 24 to be forwarded to a bar code symbol 60 to be read. The laser diode package has a front opening 14 for allowing propagation of the laser beam toward the bar code symbol. A monitor photodetector 28 for monitoring the power output of the laser chip 22 is housed within the casing 12. The monitor photodetector 28 also receives the laser light reflected from the bar code symbol, thus eliminating the need for and the use of a separate photodetector mounted exteriorly of the laser diode package.

Downstream of the laser diode package, the reader comprises a focusing lens 34 and an aperture stop 36 which together serve to focus the laser beam 24 to a beam spot at a reference plane located at a predetermined distance away from the laser diode. The reader further comprises a collecting lens 38 for collecting and focusing onto the monitor photodetector the light reflected from the bar code symbol. As shown in Figures 6, 9, 10, a Fresnel lens 200 may be used to increase the efficiency of light collection onto the monitor photodetector. The Fresnel lens may be mounted either inside the casing 12 behind the front opening 14 (see Figure 6), or surrounding the laser chip 22 (see Figure 9), or outside the casing 12 in front of the front opening 14. In each case, the Fresnel lens focuses the returning reflected light onto the monitor photodetector 28 (see column 8, lines 49-57).

Metlitsky does not disclose nor suggest any package for a light beam emission source which comprises a diaphragm for selecting a central portion of the laser light beam. Indeed, Metlitsky discloses a diaphragm 36, but Metlitsky's diaphragm is located downstream of the package 10 and is not associated with the casing 12 of the package 10.

The Examiner asserted that the Fresnel lens 200 of Metlitsky serves as a diaphragm. Applicant firmly traverses this assertion. Metlitsky clearly recites that the Fresnel lens 200 is used to focus onto the monitor photodetector 28 the returning light

reflected from the bar code (column 8, lines 55-57). No disclosure or suggestion can be found throughout Metlitsky that the Fresnel lens 200 is used as a diaphragm for the light beam 24 emitted by the laser chip 22 and intended to illuminate the bar code. Thus, contrary to the Examiner's opinion, Metlitsky certainly does not disclose nor suggest that the Fresnel lens 200 serves as a diaphragm.

In addition thereto, it is clear from Figures 6, 9, 10 of Metlitsky that the Fresnel lens 200 has a central opening intended to allow propagation of the whole light beam 24 emitted by the laser chip 22 (see the external rays of the light beam 24 emitted by the laser chip 22 which pass through the central opening of the Fresnel lens 200). The provision of the central opening is necessary in order to permit the laser beam 24 to pass unobstructed through and past the Fresnel lens thus preventing changing of any focusing parameters by this lens. Thus, contrary to the Examiner's opinion, Metlitsky certainly does not disclose nor suggest that the Fresnel lens 200 serves as a diaphragm for selecting a central portion of the generated laser light beam. In accordance with Applicant's claims, on the other hand, Applicant's diaphragm selects a central portion of the laser light beam so that only the central portion of the laser light beam is propagated while a remaining portion of the laser light beam is obstructed. Such selection is simply not practiced or suggested by U.S. Patent 5,233,170 to Metlitsky et al.

Further, an artisan of the art would not have provided any diaphragm in casing 12 of Metlitsky's package 10 for selecting a central portion of the laser light beam. Such a diaphragm would have also inevitably disturbed and prejudiced the collection and focusing onto the monitor photodetector 28 of the returning light reflected from the bar code, and thereby being contrary to Metlitsky's objects and teachings.

Therefore, in view of the above, Applicant believes that extant claims 1-15, 16, 17, 35 are novel and non-obvious over Metlitsky.

CLAIMS 18-34, 36 and 37

Claims 18-34 and 36 stand rejected without the Examiner having recited any specific passage of Metlitsky and/or raising specific objections over Metlitsky or any other cited prior art.

Claims 18-34, 36, and new independent claim 37 basically relate to an optical device for emitting/detecting a luminous signal, comprising a package for a laser light source. The package comprises a first portion which houses the means for generating the light beam, and a second portion which houses the photo-receiving means, wherein the first and second portions are optically separate from each other. Advantageously, by this arrangement the emission and collecting paths are kept optically separate from each other, thus avoiding mixing of the light reflected from the bar code with the light emitted by the laser light source. Such mixing which would cause noise in the signal generated by the photo-receiving means.

Metlitsky does not keep the emission and collecting paths optically separate from each other in order to avoid mixing of the light reflected from bar code with the light emitted by the laser light source. Indeed, Metlitsky discloses a laser diode package housing either the laser light source (laser chip 22) and the photo-receiving means (monitor photodetector 28). Specifically, the monitor photodetector 28 is located within the casing 12 rearwardly of the laser chip 22 (see column 4, lines 53-55). From Figures 3, 4, 6, 7, 9, 10, it is clear that the laser chip 22 is located within the collecting path of the light beam reflected from the bar code and directed toward the monitor photodetector 28. No optical separation is provided between the emission and the collecting paths. Conversely, it is clear that in Metlitsky the emission and collecting paths are at least partially overlapping one to another, thus causing mixing of the light reflected from bar

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code with the light emitted by the laser light source. Therefore, Metlitsky experiences noise in the signal generated by the monitor photodetector 28.

Therefore, in view of the above, also claims 18-34, 36 should be considered novel and non-obvious over Metlitsky.

C. MISCELLANEOUS

In view of the foregoing and other considerations, a formal indication of allowance is earnestly solicited.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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